

SHUFELDT (R.V.)

Fossil birds from the equestrian
beds of Oregon.



presented by the author

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Sample (R. W.) ✓

Fossil Birds from the Equus Beds of Oregon.—In the AMERICAN NATURALIST of last April (1891) the present writer invited attention to the fact that he had in hand for description a large collection of fossil birds from the Upper Pliocene of the Silver Lake region, Oregon. A small part of these had been loaned by Professor Condon, of the University of Oregon, but the great bulk of the collection belonged to the cabinet of Professor Cope, who had with marked generosity placed them at my disposal for the aforesaid purpose.

My labors upon this fine collection have now been completed, and the work is ready to be passed into the hands of the printers and engravers. The memoir will make a quarto volume of upwards of a hundred pages, and is illustrated by four quarto plates, presenting over forty figures of the bones of the new species and genera.

The present notice pretends to be nothing more than a brief abstract, giving a list of the species described, with remarks thereon.

Those indicated by an * have already been either noticed or described elsewhere by Professor Cope.

PYGOPODES.

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| 1. <i>Æchmophorus occidentalis</i> .* | 3. <i>Colymbus auritus</i> ? |
| 2. <i>Colymbus holboëllii</i> . | 4. <i>Colymbus nigricollis californicus</i> .* |
| 5. <i>Podilymbus podiceps</i> .* | |

LONGIPENNES.

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|---|---------------------------------|
| 6. <i>Larus argentatus smithsonianus</i> . | 10. <i>Larus philadelphia</i> . |
| 7. <i>Larus robustus</i> . Sp. nov. | 11. <i>Xema sabinii</i> . |
| 8. <i>Larus californicus</i> ? | 12. <i>Sterna elegans</i> ? |
| 9. <i>Larus oregonus</i> . Sp. nov. | 13. <i>Sterna fosteri</i> ? |
| 14. <i>Hydrochelidon nigra surinamensis</i> . | |

STEGANOPODES.

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| 15. <i>Phalacrocorax macropus</i> .* | 16. <i>Pelecanus erythrorhynchus</i> ? |
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ANSERES.

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| 17. <i>Lophodytes cucullatus</i> . | 20. <i>Anas carolinensis</i> . |
| 18. <i>Anas boschas</i> . | 21. <i>Anas discors</i> . |
| 19. <i>Anas americana</i> . | 22. <i>Anas cyanoptera</i> ? |



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| 23. <i>Spatula clypeata</i> . | 29. <i>Branta hypsibatus</i> .* |
| 24. <i>Dafila acuta</i> . | 30. <i>Branta propinqua</i> . Sp. nov.* |
| 25. <i>Aix sponsa</i> . | 31. <i>Branta canadensis</i> .* |
| 26. <i>Aythya marila nearctica</i> ? | 32. <i>Anser condoni</i> . Sp. nov. |
| 27. <i>Glaucionetta islandica</i> . | 33. <i>Anser albifrons gambelii</i> .* |
| 28. <i>Clangula hyemalis</i> . | 34. <i>Chen hyperborea</i> . |
| | 35. <i>Olor paloregonus</i> .* |

ODONTOGLOSSÆ.

- 36.
- Phænicopterus copei*
- . Sp. nov.

HERODIONES.

- 38.
- Ardea paloccidentalis*
- . Sp. nov.

PALUDICOLÆ.

- 39.
- Fulica americana*
- .* 40.
- Fulica minor*
- . Sp. nov.

LIMICOLÆ.

- 41.
- Phalaropus lobatus*
- .

GALLINÆ.

- | | |
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| 42. <i>Tympanuchus pallidicinctus</i> . | 44. <i>Pediocætes lucasii</i> . Sp. nov. |
| 43. <i>Pediocætes phasianellus columbianus</i> . | 45. <i>Pediocætes nanus</i> . Sp. nov. |
| | 46. <i>Palæotetrix gillii</i> . Gen. et Sp. nov. |

ACCIPITRES.

- 47.
- Aquila pliogryps*
- . Sp. nov. 48.
- Aquila sodalis*
- . Sp. nov.

STRIGES.

- 49.
- Bubo virginianus*
- .

PASSERES.

- 50.
- Scolecophagus affinis*
- . Sp. nov. 51.
- Corvus annectens*
- . Sp. nov.

Of the fifty-one species here enumerated ten have already been noticed by Cope, three of which were described as new, and one of which has since proved to be new,—*i. e.*, the brant I have described above as *Branta propinqua*.

Larus robustus is represented by a left coracoid, which is nearly perfect. This bone is shorter and stouter than the corresponding element in *Larus glaucus*; otherwise its characters are almost identically the same. *Larus robustus* was a gull rather smaller than *L. glaucus*, with which it may easily have been closely related.

Another gull was *Larus oregonus*, an extinct species new to science, which was about the size of *Larus delawarensis*, and its existence is based upon two humeri, both from the left side of two different individuals. The characters exhibited on the part of these bones are distinctly different from those of other gulls of this size. *Anser condonii* is a great extinct goose, vastly larger than our present existing Canada goose (*B. canadensis*). Its remains are represented in Professor Cope's collection by a fractured *os furcula* and the parts of two others. These were carefully compared with the furculæ of a number of our wild geese and swans of the genera Chen, Anser, Branta, Dendrocygna, and Olor, and it was found that, upon the whole, the majority of its characters agree best with *Anser albifrons*.

These characters and comparisons are dwelt upon in detail in my forthcoming memoir. I have named this goose after Professor Thomas Condon, of the University of Oregon, the first naturalist who discovered and collected any of the remains of fossil birds in the Silver Lake region of Oregon. A fine series of bones represents the new brant, *Branta propinqua*,—a small goose evidently referred to by Cope as a species that came "near *nigricans*." I propose the above name for this now extinct form.

One of the most interesting discoveries made in the Silver Lake region was the fossil remains of a new species of a now extinct flamingo, which I have called *Phænicopterus copei*, in honor of Professor E. D. Cope, who discovered it. I found a number of bones belonging to this species in the collection, and a study of them reveals the fact that *P. copei* was a somewhat taller and longer-winged flamingo than *P. ruber*, though at the same time it was probably not quite so stout in the body.

A small heron, to which I have given the name of *Ardea paloccidentalīs*, and a new coot, *Fulica minor*, smaller than *Fulica americana*, were, as will be seen in the list given above, also among the novelties. The first-named was a species somewhat larger than *A. candidissima*, and smaller than *A. egretta*, with osteological characters identical with existing herons. Osteologically, too, the two coots agree, the species differing only in size.

It will be observed that the Gallinæ were very well represented in the avifauna of Western Oregon during the later Tertiary times, and among their fossil remains I found three species of them that proved to be new. Both of these were closely related to *Pediocates phasianellus columbianus*. The larger form, *Pediocates lucasii*, I have named in honor of my friend, Mr. F. A. Lucas, in recognition of his published labors in

avian osteology, and his past and present museum work, both in paleontology and bird-structure.

P. nanus was smaller than *columbianus*, and decidedly smaller than *P. lucasii*.

Another grouse was *Palaeotetrix gillii*, a rare form apparently, and one smaller than a female *Centrocercus*, but considerably larger than the largest forms of *Tympanuchus*. It was probably related to several of the existing species, and may have been in the ancestral line of the sage cocks. Its remains exhibit osteological characters that differentiate it generically from our present tetraonine types. I have named it in honor of Dr. Theodore Gill, the eminent ichthyologist and biologist.

Two new eagles were also discovered, but their fossil remains were not abundant. *Aquila pliogryps* I believe to have been a large bird,—somewhat larger than *A. chrysaetos*, to which it was apparently related. In its proportions it was apparently of a more slender build, however, and may have had habits akin to the falcons, and was at any rate a very formidable bird. *Aquila sodalis* was a considerably smaller eagle than *A. pliogryps*, though not much smaller than *A. chrysaetos*. None of the lesser Accipitres were discovered.

Among the Passeres, I met in the collection with the remains of an extinct blackbird, which I have called *Scolecophagus affinis*, it being related to Brewer's blackbird, and probably in those Pliocene times resorted in numbers to the vegetal growth of the margins of the lakes. *Corvus annectens* was a raven, smaller in size than any of our present ravens, to which it was very closely related.

It is not my intention here to abstract any part of my "conclusions" in reference to the avifauna of the Equus beds of Oregon, as such remarks can well remain until the appearance of the general work upon the subject.

In closing, it gives me pleasure to tender my sincere thanks to Professor G. Brown Goode, of the National Museum, for the unlimited facilities extended to me in the matter of the loan of the skeletons of existing birds from the museum's collections; also to Mr. Lucas for his kindness in getting them to me after my request in that direction had been granted. That material, added to my own collection of bird skeletons, was ample for all purposes of comparison, for all the necessary existing species were at my command.—*R. W. Shufeldt, M.D., Smithsonian Institution, Washington, D. C.*



